Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

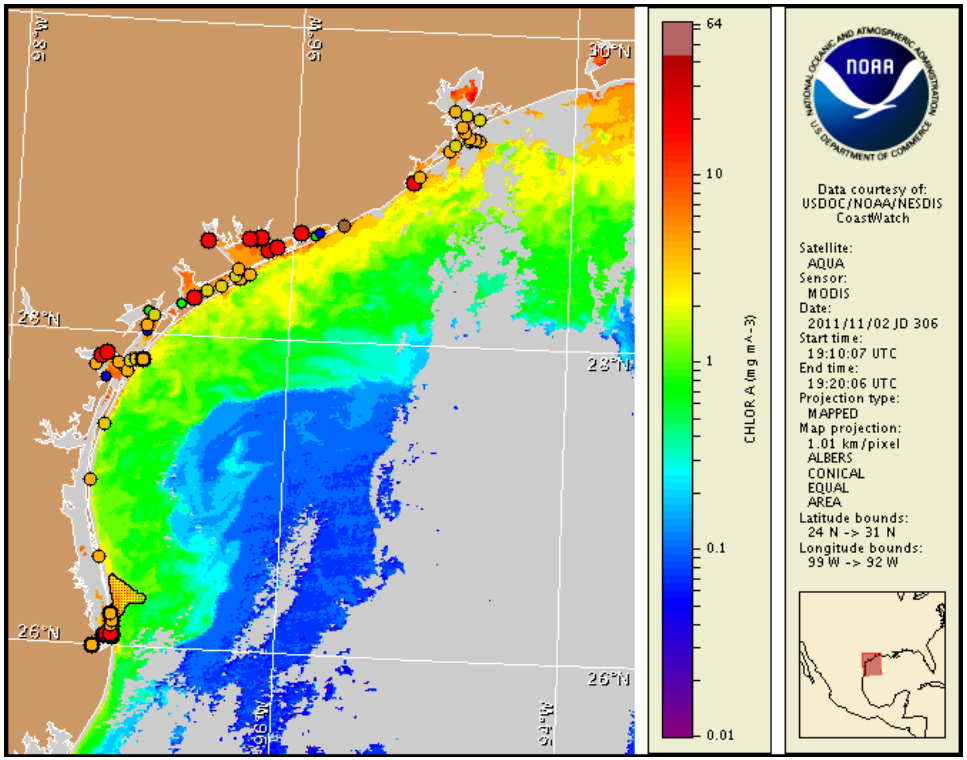
Thursday, 03 November 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, October 31, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 24 to November 2 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area. Patchy high impacts are possible in the Galveston/Freeport, Matagorda, and Port Aransas regions on Friday, Saturday and Sunday, alongshore the Padre Island National Seashore region today and Saturday, and in the South Padre Island, lower Laguna Madre, and Brownsville Ship Channel regions today through Sunday. Patchy moderate impacts are possible alongshore the Padre Island National Seashore region Friday and Sunday. Patchy low impacts are possible in the Galveston/Freeport, Matagorda, and Port Aransas regions today. No additional impacts are expected at the coast in Texas, today through Sunday, November 6. Over the past few days, reports of respiratory irritation have been received from the Matagorda, Port Aransas/Mustang Island, and South Padre Island areas. Dead fish have been reported from the Matagorda Peninsula and Corpus Christi Bay areas. Discolored water has been reported from the Port Lavaca/Matagorda Bay area, Aransas Bay, Nueces Bay, and Corpus Christi Bay.

Analysis

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area.

In the Galveston region, five samples collected on the Gulf-side of Bolivar Roads Pass, from the end of the channel-side of the South Jetty to the Galveston Yacht Basin, indicate that *Karenia brevis* continues to range from 'low b' to 'medium' concentrations (10/31; TPWD). Within the southern portion of Galveston Bay, six samples indicate that *K. brevis* may have increased to a range between 'low b' and 'medium' concentrations (10/31) from the 'very low b' to 'low b' concentrations last identified on 10/24 (TPWD). Within the West Bay, two samples indicate that *K. brevis* has increased from 'not present' to a range between 'low b' and 'medium' concentrations (10/31; TPWD). A sample collected from the Gulf-side of San Luis Pass also indicates that *K. brevis* increased from 'low b' to 'medium', while a sample collected from within Christmas Bay indicates *K. brevis* increased from 'low b' to 'high' (10/31; TPWD).

In the Matagorda Bay region, *K. brevis* continues to range between 'low b' and 'high' concentrations (11/1; TPWD). Two Gulf-side samples collected from Port O'Connor Big Jetties and Pass Cavallo indicate 'medium' concentrations of *K. brevis* (11/1; TPWD). Within Matagorda Bay, 'medium' concentrations of *K. brevis* were identified from the Port O'Connor Little Jetties (11/1; TPWD). Further north, 'high' concentrations were identified at the entrance to Port Lavaca Harbor (11/1; TPWD), where discolored water from a dense bloom is visible (11/2; TPWD). A sample collected from Saluria Bayou in Espiritu Santo Bay indicates *K. brevis* remains at 'low b' concentrations in the area (11/1; TPWD). Respiratory irritation and dead fish have been reported from along the Matagorda Peninsula (11/2; TPWD).

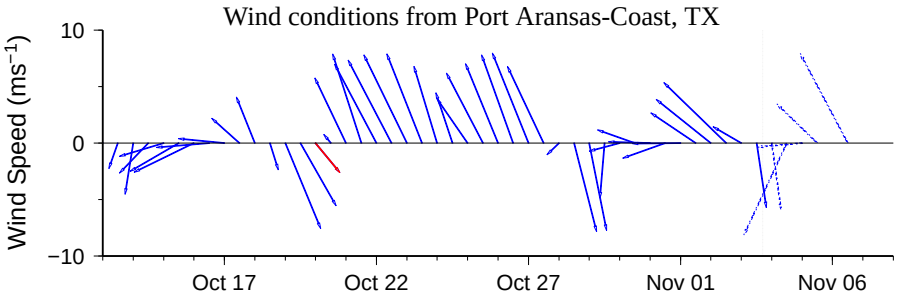
In the Aransas/Corpus Christi region, seven samples collected from the Gulf-side of Aransas Pass indicate that *K. brevis* continues to range between 'low b' and 'high' concentrations (10/31-11/2; TPWD). Respiratory irritation continues to be reported from Port Aransas and the Mustang Island State Park region (11/1-2; TPWD). Discolored water has been reported in Aransas Bay, Nueces Bay, and Corpus Christi Bay (11/1-2; TPWD). Dead fish continue to be present in Corpus Christi Bay (11/2; TPWD).

No new samples have been received from the Padre Island National Seashore region, but the most recent sampling information indicated that *K. brevis* ranged between 'low b' and 'medium' concentrations (10/28; TPWD). In the South Padre Island region, samples collected from three sites along the Gulf coast and on the Gulf-side of Brazos-Santiago Pass all indicate that *K. brevis* has returned to a range between 'medium' and 'high' concentrations (10/31-11/2; TPWD). Within the lower Laguna Madre, recent samples indicate that *K. brevis* continues to range up to 'high' concentrations (10/31-11/2; TPWD). In the Port Isabel area, two samples indicate that *K. brevis* concentrations remain between 'medium' and 'high' concentrations (11/2; TPWD). Along the Laguna Madre-side of South Padre Island, samples collected from the Isla Blanca boat ramp, east end of the Queen Isabella Causeway, and Sea Ranch Marina indicate that *K. brevis* has returned to a range between 'medium' and 'high' concentrations (10/31-11/2; TPWD). Further north within the lower Laguna Madre, samples collected from the South Padre Island Convention Center indicate that *K. brevis* has increased from 'very low a' to 'medium' concentrations (10/31-11/2; TPWD). Within the Brownsville Ship Channel, 'medium' concentrations of *K. brevis* continue to be identified from the San Martin Boat Ramp (11/2; TPWD). Reports of light to moderate respiratory irritation have been received along South Padre Island and Boca Chica (11/1-2; TPWD).

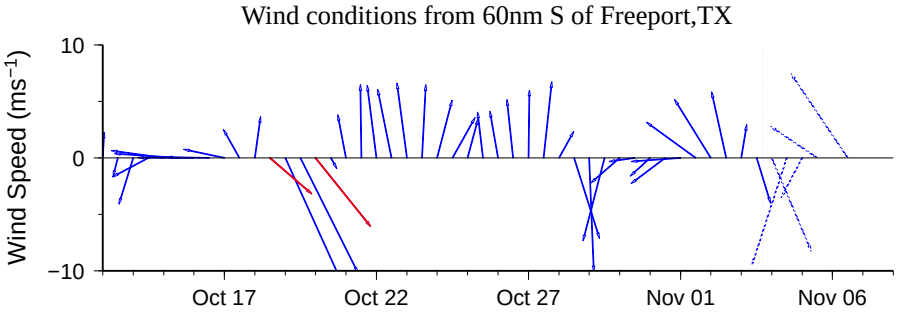
Recent MODIS imagery (11/2, page 1) is partially obscured by clouds from Sabine Pass to San Luis Pass, but images from 10/31 and 11/1 (not shown) indicate a band of elevated to very high chlorophyll (2 to >20 μg/L) stretching along- and offshore. MODIS imagery (11/2) shows small patches of elevated to high chlorophyll (2-15 μg/L) stretching from alongshore the Matagorda Peninsula region to the Mustang Island region. A patch of elevated chlorophyll (2-5 μg/L) is also visible stretching along- and offshore the South Padre Island area (26°37'59''N 97°16'23''W to 25°57'26''N 97°7'41''W), where sampling continues to indicate the harmful algal bloom remains present. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

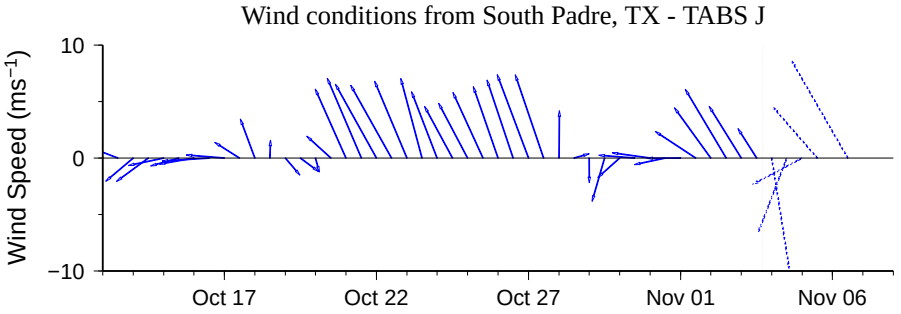
Forecast models indicate a maximum bloom transport from coastal sample locations of <10 km (negligible) from the Galveston Bay region, 15 km south from the Matagorda Peninsula region, 30 km south from the Port Aransas region, 30 km south along the Padre Island National Seashore, and 20 km south from Brazos Santiago Pass from November 2 to 6. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Kavanaugh, Derner



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



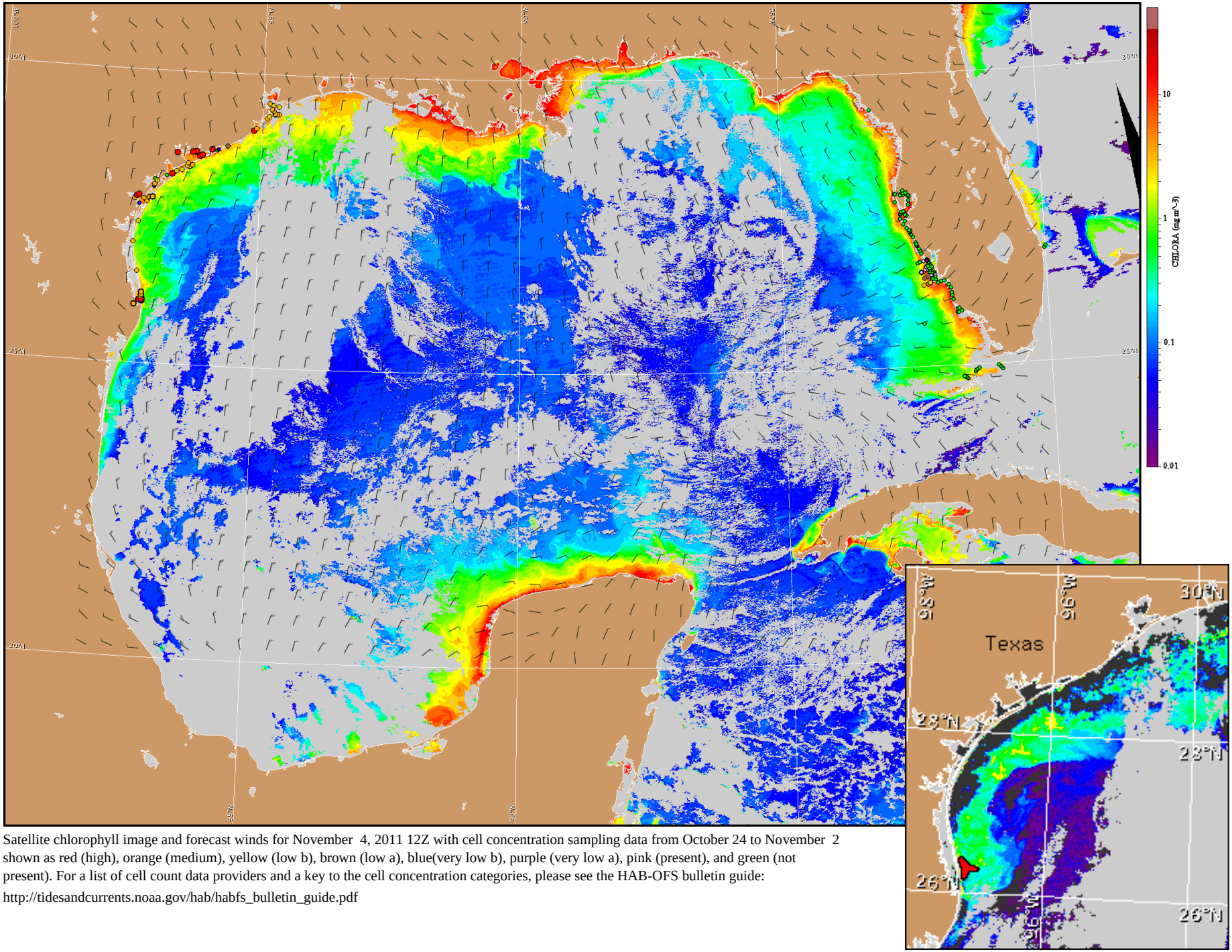


Wind Analysis

Galveston/Freeport: North winds (10-30 kn, 5-15 m/s) today through Friday becoming northeast to east winds (5-10 kn, 3-5 m/s) Friday afternoon through evening. Southeast winds (5-20 kn, 3-10 m/s) Saturday and Sunday.

Port Aransas: North winds (10-30 kn) today through Friday becoming northeast to east winds (5-10 kn) Friday afternoon through evening. Southeast winds (10-20 kn, 5-10 m/s) Saturday and Sunday.

South Padre: North winds (10-30 kn) today and tonight. Northeast to east winds (15 kn, 8 m/s) Friday. Southeast winds (15-20 kn, 8-10 m/s) Saturday and Sunday.



Satellite chlorophyll image and forecast winds for November 4, 2011 12Z with cell concentration sampling data from October 24 to November 2 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide: http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).